

DOCUMENT RESUME

ED 305 624

CS 009 631

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TITLE A Second Grade Study of the Effectiveness of Economy Keys to Reading Versus Macmillan Series r in Reading Comprehension.
PUB DATE May 89
NOTE 30p.; Master's Thesis, Kean College.
PUB TYPE Reports - Research/Technical (143) -- Dissertations/Theses - Master Theses (042) -- Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Basal Reading; Comparative Analysis; Grade 2; *Instructional Material Evaluation; Primary Education; *Reading Achievement; *Reading Comprehension; *Reading Instruction; *Reading Materials; Reading Research
IDENTIFIERS California Achievement Tests

ABSTRACT

A study (conducted in suburban central New Jersey using 218 second graders' California Achievement Test (CAT) scores from 1986-1988 compared the effectiveness of two well-known reading programs. Results indicated that although there was no statistically significant difference in the scores, the mean difference suggested that children who were taught more years with "Economy, Keys to Reading" showed higher achievement in reading comprehension than children who were taught reading with "Macmillan, Series r." (Three tables of data are included, and 18 references are attached. Appendixes contain CAT scores.) (SR)

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A Second Grade Study of the Effectiveness
of Economy Keys to Reading
Versus
Macmillan Series r in Reading Comprehension

by
Marilyn Olsen

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Presented in Partial Fulfillment
of the Requirements for the Master of Arts Degree

Kean College of New Jersey

May, 1989

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Abstract

This study, conducted in a suburban community in central Jersey, compared standardized test scores in reading comprehension from the years 1986 to 1988. Second grade scores were analyzed in order to determine the effectiveness of two different reading programs. It was hypothesized that there would be no difference in reading comprehension of the children who were taught reading with Economy, Keys to Reading, when compared to the children who were taught reading with Macmillan, Series 1 at the end of second grade.

An analysis of the data indicated that although there was no statistically significant difference in the scores, the mean differences suggest that the children who were taught more years with Economy, Keys to Reading showed higher achievement in reading comprehension.

Acknowledgements

I would like to express my appreciation to my daughter Kim and her husband Bill for their patience and support while I worked on this thesis.

A thank you also to Dr. Mazurkiewelcz who assisted and guided me throughout this project.

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How should reading be taught? How do children learn? The answers to these questions have been controversial for years and many different methods and philosophies exist for teaching reading.

There are many advocates in teaching reading for the top-to-bottom method or from the whole to the parts. The basis for this type of teaching usually arises from the fact that meaning must be derived from words and without knowing the "whole", understanding and relevance is sacrificed. There must be some connection between the language spoken to the words written in order to make sense of texts. Frank Smith, (1971) in Understanding Reading, supports the idea that it is just as easy to learn a whole word and recognize it as it is to recognize individual letters or clusters. Kenneth and Yetta Goodman (1965) also believe that reading is a psycholinguistic guessing game and children must have meaning in order to solve the puzzle of reading.

There are also theorists who believe a child should be taught from the smallest units of learning and mastery of these units is needed before going on to larger ones. They believe in stressing the subskills in reading until learning is automatic.

These theorists have a big influence on the type of programs and the methods used in teaching reading today. Most programs show a distinct emphasis on either a top-to-bottom type of teaching or a bottom-to-top emphasis.

Jeanne Chall, (1967) in her book Learning to Read: The Great Debate, discusses the controversial subject and concludes that code-emphasis programs for the beginner reader produce better

readers with good comprehension at the end of third grade. In "Sound Priming in Beginning Readers", Reitsman (1984) concludes that children don't proceed from print directly to meaning but need to use phonological information such as phonemic codes to obtain access to the meaning of printed words. A study done on "The Efficacy of Whole Word and Phonic Approaches to Beginning Reading Instruction with Readers of Varying Word Learning Proficiencies", (Doyle, 1987) reveals that phonic programs produced higher reading achievement scores on all subtests for readers of all word learning task proficiency levels. The result of her study suggests that phonics instruction is beneficial.

Thorndike, in his study "Reading as Reasoning" (1917), was a big influence on the top-to-bottom theory of teaching reading. Frank Smith as well as the Goodmans follow his thoughts on the processes of reading. A study done in two bilingual first grade classrooms, (Franklin, 1984), gave support for a literacy program based on psycholinguistic principle, stressing the immediate use of whole texts by children rather than emphasizing skills and smaller bits of language.

There have been other studies done where both meaning and phonic strategies have been used in teaching reading. A study done where subjects in first grade were placed in either a phonic-oriented series with a text and instruction emphasizing primarily regular decodable patterned words, or in a series that focused on high interest stories with text and instruction split more equally between regularly and irregularly decodable patterned words, reveals that sheer exposure to lots of words also

facilitates early letter-sound correspondence. (Juel, Roper/Schneider, 1981) In "Teaching Children to Use a Context--Plus--Phonics Strategy", (Spiegel, 1985), a procedure is used that teaches children to integrate both contexts and phonics. The author reports that the strategy is effective.

Most advocates in teaching sight methods of word recognition argue that the rules of phonics are not consistent enough to warrant teaching or their frequency in using these rules is too low. They also state, but provide no evidence that this is so, that phonics slows down a reader and the reader will lose the meaning or sense of what he or she is reading.

The supporters of teaching word recognition by first learning the small units argue that the subskills must be learned in order to have the outcome of skilled reading performance with meaning. Teaching subskills allows regular testing of these skills to see if learning is taking place and therefore progress can be monitored with each and every student. A specific sequence can be followed in teaching subskills and therefore more difficult texts can be read as subskills are mastered. There is also a transfer of learning that takes place which allows the reader to apply skills taught to other words and thus increases his or her reading vocabulary.

There are many different approaches and methods available in teaching reading today. Each program emphasizes a specific philosophy which is demonstrated throughout the program.

Reading for meaning is the most important goal in any reading program since that is the over-all objective in teaching

reading. Does Macmillan's Series x achieve this goal by emphasizing reading comprehension and making every word meaningful by using it in meaningful text? Is Economy's Keys to Reading, in its meaning-discrimination method of teaching reading as effective in teaching reading comprehension? Which approach actually produces better reading comprehension?

Hypothesis

To provide evidence on the topic, the following study was conducted. It was hypothesized that there would be no difference in reading comprehension of the children who were taught reading with Economy, Keys to Reading, when compared to the children who were taught reading with Macmillan, Series x at the end of second grade.

Definitions

Code emphasis readers or phonic based readers are readers which stress the correspondence between the spelling and the sound of the words taught. This would include the grapheme-phoneme correspondence or the letter and sound relationships of letters, digraphs, diphthongs and spellings. It would also include inflectional endings, prefixes and syllabication.

Meaning oriented readers use a strong word identification strategy and rely on using the word in a meaningful text. It teaches phonics by bringing attention to spelling patterns and uses a whole word approach. Small units of sounds are not taught in isolation but an analysis of the whole word determines the ex-

tent of phonics taught. Whole word recognition is stressed and emphasis on vocabulary meaning is brought about by using words in context. At the same time they stress the importance of reading comprehension and general language development.

Procedures

Macmillan, Series K, is a meaning oriented basal reader program which uses vocabulary words in context, spelling patterns and phonic, syllabic, morphemic and contextual meaning cues for word identification. Words are taught only as a whole and then analyzed for phonetic patterns. Its major emphasis is reading comprehension and general language development. Macmillan Series K is more concerned with the meaningfulness of the content of the reading selection and the meaningful ways for children to respond to that content. Vocabulary words are taught in context in order for the meaning to be clearly understood and are usually related to the story to be read. This major focus on meaning is obviously to improve reading comprehension.

Economy, Keys to Reading, uses a meaning-discrimination approach to reading. It is a code emphasis reader which devotes an ample amount of time in teaching phonics. Words are taught to be decoded and analyzed in small units so that phoneme-grapheme correspondence is established. "Increased skill in word analysis aids in unlocking word meanings; conversely, skill in the use of contextual and structural clues reinforces other word-analysis skills." (Keys to Reading, 1975) The number of vocabulary words taught increases when words are taught to be decoded in

isolation. The emphasis on language and comprehension skills is shown through the use of language experience and story charts along with discrimination skills in the beginning program. The development of comprehension skills becomes more sophisticated with the interpretation of more complex reading materials as the program progresses. The program stresses an interdependence upon discrimination and meaning of words and thus focuses on both aspects. The time devoted to discrimination skills in the beginning program outweighs the time spent on comprehension skills.

This study compared the individual reading comprehension scores from the standardized CAT tests given to second graders in 1986 to 1988 to determine differences in achievement results, if any, of the two programs. The research was conducted in a middle-class suburban community in central Jersey. The scores were obtained from one school with four second grade classes in 1986, three classes in 1987, and four classes in 1988. The mean of the Normal Curve Equivalent or NCE in reading comprehension was used.

There were 78 students who took the test in 1986 and they were taught using only Economy, Keys to Reading. In 1987 there were 68 students who took the test and they had Keys to Reading in kindergarten and first grade but Macmillan, Series x in second grade. The 72 students who took the test in 1988 had Economy, Keys to Reading only in kindergarten and Macmillan, Series x in first and second grade.

These reading comprehension scores were compared in order to find out if children taught with Macmillan, Series x showed

greater scores in reading comprehension over those taught with Economy, Keys to Reading. The significance of the difference between mean scores were tested using t tests.

Results

The individual reading comprehension scores of the CAT using the Normal Curve Equivalent of NCE were studied to determine the achievement of the students in regard to the reading program used. The mean scores and standard deviations were calculated for each year from 1986 to 1988. A t was computed in order to determine if there were any significant differences in scores between the mean achievement of the three years.

Tables One through Three illustrate the comparison of the findings of 1986 to 1988 scores.

Table I

M, SD, and t of Economy, Keys to Reading in Kindergarten, 1st and 2nd grades in 1986 Versus Economy in Kindergarten and 1st and Macmillan, Series x in 2nd grade in 1987

Samples	M	SD	t
Economy K, 1, 2	59.93	17.64	.51
Economy K, 1 and Macmillan 2	56.31	17.98	

DF 148 NS

Table II

M, SD, and *t* of Economy, Keys to Reading in Kindergarten, 1st and 2nd grades in 1986 Versus Economy in Kindergarten and Macmillan, Series x in 1st and 2nd grades in 1988

Samples	M	SD	t
Economy K, 1, 2	59.93	17.64	.66
Economy K, Macmillan 1, 2	55.18	18.07	

DF 145 NS

Table III

M, SD, and *t* of Economy, Keys to Reading in Kindergarten and 1st grade and Macmillan, Series x in 2nd grade in 1987 Versus Economy in Kindergarten and Macmillan in 1st and 2nd grades in 1988

Samples	M	SD	t
Economy K, 1 Macmillan 2	56.31	17.98	1.01
Economy K, Macmillan 1, 2	55.18	18.07	

DF 139 NS

The mean difference on Table I between the 1986 and 1987 scores was 3.62. The mean difference on Table II between 1986 and 1988 scores was the greatest, 4.75, in favor of Economy. The mean difference on Table III was 1.13 from 1987 and 1988 scores. All three tables show there is no significant difference between the scores studied using the t test. The mean difference, however, indicates that reading comprehension achievement was less with the greater number of years that Macmillan was used.54

Conclusions and Implications

The findings of this study support the hypothesis that there would be no difference in reading comprehension of the children who were taught reading with Economy, Keys to Reading when compared to the children who were taught reading with Macmillan, Series 1 at the end of second grade. Although the results show that there is not a statistically significant difference in scores, the mean differences suggest that the children who were taught more years with Economy showed higher achievement in reading comprehension. This data support Chall's (1967) and Dykstra's (1968) conclusions that code-emphasis programs for the beginner reader produce better readers with good comprehension. The results also make questionable the argument that phonics slow down readers and that meaning is thus hindered or compromised. The study done by Manning (1988), which suggests that early phonic instruction can hurt literacy development since a child becomes preoccupied with phonic techniques and rules and thus suffers in reading comprehension, is also disputed.

Implications of this study indicate that a code-emphasis program can actually aid children in comprehending text since it helps in unlocking unknown words and that a stress in phonics in the early grades does not necessarily mean a compromise on meaning. Meaning-oriented basals do not always succeed in surpassing code-emphasis readers in reading comprehension achievement. In some cases it may even hinder comprehension since the student may rely solely on whole-word recognition of words and context clues and fail to have a strategy to unlock unknown words by breaking them down to their smaller units.

Macmillan's program is specifically designed to emphasize comprehension skills by teaching all words in context and yet the results show that reading comprehension is not improved at a second grade level. It would be beneficial to compare 1989 scores and scores in different grade levels to see if the findings are the same.

In order to have children succeed in reading comprehension, it seems that a variety of methods must be used which integrate both phonics with context strategies.

Basal Reader Comparisons
Related Research

Controversies over beginning reading instruction have been going on for generations and most likely will continue in the future. What and who started these controversies and how do they influence the methods and programs that are taught in our schools today?

In the nineteenth century, whole-word methods of teaching reading found no wide-spread support. Phonics-based instructional materials, like the McGuffey Readers were used to teach children to read (Groff, 1977). Meaning-emphasis methods of teaching reading began in the early twentieth century and thus the controversy began on which method to use began.

Cattell (1885) researched perception of words and found that skilled readers read four connected words as quickly as two unconnected words and that it took longer to name letters than it did words. This provided the scientific basis for teaching children to read by a whole-word, meaning-emphasis method.

Similar experiences in reading were done by Huey (1908) and he found that in reading a column of letters, a column of four-letter words, and a column of eight-letter words that it did not take eight times longer to read the column of eight-letter words. It took 15.7 seconds for the isolated letters, 17.3 seconds for the four-letter words and 19.6 seconds for the eight-letter words. The implications from this study are that fluent readers do not process words letter by letter and we do not comprehend sentences word by word. Thus Huey's research supports a whole-word approach to reading. He noted that new words were best learned by context and that phonics should be delayed until the

age of eight or nine.

Thorndike's research on "Reading As Reasoning: A Study of Mistakes in Paragraph Reading" (1917) was also an influence on the meaning-emphasis method. His studies revealed that "reading is a very elaborate procedure, involving a weighing of each of many elements in a sentence, their organization in the proper relations one to another, the selection of certain of their connotations and the rejection of others, and the cooperation of many forces to determine final response." Reading to Thorndike was thinking and reasoning and not "a mechanical, passive, undiscriminating task, on a totally different level from the task of evaluating or using what is read."

An important study that gave support to a whole language approach to reading is Kenneth Goodman's "A Linguistic Study of Cues and Miscues in Reading" (1965). Goodman's study implied that introducing new words out of context before new stories is not desirable since the additional cues in whole sentences gave children an advantage in reading the words. Many words that could not be read in lists were read when put into context. Goodman's study of cues and miscues in reading influences many programs still today.

In "Phonics Revisited" (1977), A. Sterl Artley also concludes that phonics should not be taught as a method of reading but as a cue system that is important in reading. He feels that context should be the first cue to word identification and to meaning. Phonic knowledge becomes an invaluable aid when a choice must be made from among several words that would reasonably fit the given

context. However, "sounding out" a word is unnecessary since it is time-consuming and cumbersome and context clues can identify words with only minimal attention. Artley concludes that basic symbol-sound relations for consonants should be taught such as single consonants, consonant digraphs and clusters. Vowels are not as useful in word identification and should be taught only in a contextual setting to determine the long or short sound.

Elizabeth Anne Franklin (1984) did a study titled "A Naturalistic Study of Literacy in Bilingual Classrooms" in which two bilingual first grade classrooms were taught from basals. One class was taught by a sight-word approach and the other class used a code-emphasis or phonic basal. The results of this study gave support for a use of a meaning oriented basal rather than a phonic based one.

A recent study done by Maryann and Gary Manning (1988), "Early Phonics Instruction: Its Effect of Literacy Development", suggests that early phonics instruction can hurt literacy development. Their study found that a young student can become preoccupied with phonic techniques and rules and that once phonics was introduced, fluency and reading comprehension was reduced. The researchers recommend that children do not learn to read and write by absorbing isolated bits of phonic information taught sequentially and that the purpose of reading and writing is to discern and convey meaning.

In contrast to the above, the following people found evidence to teach a phonic-based program in the early grades.

In 1955, Rudolf Flesch aroused the whole country with his

book Why Johnny Can't Read and What You Can Do About It. Flesch challenged the views of teaching children by the sight method and advocated a return to a phonic approach to teaching beginning reading. He influenced many reading programs to include phonics. He brought the public's awareness to the importance of including phonics into a reading program.

Flesch's protest to a whole-word method was later reinforced by Chall in 1967. Chall researched phonics and the look-say method of teaching reading and the effects of knowing the alphabet. She analyzed selected published reading programs and interviewed teachers and authors and evaluated methods found effective in laboratories and clinics. Chall concluded in The Great Debate that code-emphasis programs produced better results at least through Grade 3. She recommended a change from a meaning-emphasis to a code-emphasis beginning reading instruction and her book has influenced many published reading programs today. An update to her original study seems to support the same conclusions. In addition, current research suggested that direct teaching of phonics, where letters and sounds are isolated, is more effective than an indirect approach, where phonics is taught from whole words and inferences and generalizations are made.

Dykstra's study (1968) followed Chall's book and drew data from the Cooperative Research Program relevant to the issue of the relative effectiveness of code-emphasis programs in initial reading instruction. His study compared eight different programs representing a code-emphasis or meaning-emphasis approach. Dysktra's study supported Chall's conclusion that code-emphasis

programs produced better over-all primary grade reading and spelling achievement when compared to meaning-emphasis programs. Code-emphasis programs showed achievement especially in words in isolation, spelling words from dictation, and identifying words in isolation on a silent reading test. In reading comprehension, there was support to the view that concentrated emphasis on learning the code may have a negative effect on comprehension if there is virtual exclusion of reading for meaning. Dykstra emphasizes that there may be other primary reasons for the relative effectiveness of the code-emphasis programs since the programs used were different in a number of respects and each program was not equally effective.

"The Efficacy of Whole Word and Phonic Approaches to Beginning Reading Instruction with Readers of Varying Word Learning Proficiencies" (1987) is a recent study done by Mary Anne Doyle which examined the relationship between reading instruction method, word learning proficiency and reading achievement in the first grade. Subjects were chosen from two suburban schools, one having a sight vocabulary instruction program and the other a phonic basal program. The high phonic--high sight proficiency group scored highest on all measures of reading, the low phonic--low sight group lowest, and those with mixed proficiencies scored between the two extreme groups. The results suggest that phonics instruction is beneficial regardless of word learning task proficiency.

In 1985 a report called "Becoming a Nation of Readers" was published which advocated phonics and denies the value of a

whole-language approach. It was written by the National Academy of Education, a group comprised of sixty members. It has been one of the most recent reports and no doubt will influence the publishers to include more phonics into their programs.

References

References

- Artley, A. Sterl, "Phonics Revisited", Language Arts, Vol 54, pp. 121-126, 1977.
- Aulls, Mark W. Developing Readers in Today's Elementary Schools, Boston, Massachusetts, Allyn and Bacon, Inc. 1982
- Becoming a Nation of Readers: The Report of the Commission on Reading, The National Institute of Education, Washington, D. C., 1984.
- Cattell, J. Mick "The Time It Takes to See and Name Objects," Mind, Vol. 11, pp. 63-65, 1886.
- Chall, Jeanne S. Learning to Read: The Great Debate, New York, McGraw-Hill, 1983.
- Dykstra, Robert "The Effectiveness of Code- and Meaning-emphasis Beginning Reading Programs", Reading Teacher, Vol. 22, pp. 17-23, October 1968.
- Doyle, Mary Anne "The Efficacy of Whole Word and Phonic Approaches to Beginning Reading Instruction with Readers of Varying Word Learning Proficiencies", Washington D. C., 1987 Ed284169.
- Flesch, Rudolf Why Johnny Can't Read and What You Can Do About It, New York, New York, Holt, Rinehart and Winston, 1974.
- Franklin, Elizabeth Anne "A Naturalistic Study of Literacy in Bilingual Classrooms", Minnesota, 1984 Ed258179
- Goodman, Kenneth "A Linguistic Study of Cues and Miscues in Reading", Elementary English, Vol. 42, No. 6, October 1965.
- Huey, Edmund The Psychology and Pedagogy of Reading, Cambridge, Massachusetts: MIT, 1968 (first published in 1908)
- Juel, Connie; Roper/Schneider, Diane "The Growth of Letter-Sound Correspondence Knowledge in First Grade and Its Relation to Reading Achievement and Programs", Dallas, Texas, 1981 Ed211949
- Layton, James The Psychology of Learning to Read, New York, Harcourt Brace Jovanovich, 1979.
- Manning, Maryann and Gary, "Early Phonics Instruction: Its Effect on Literacy Development," Young Children, Vol 44, No. 1, November, 1988.
- Reitsman, Pieter "Priming in Beginning Readers", Research Report, Child Development, Vol. 55, No. 2, pp406-23, April 1984.
- Smith, Frank Understanding Reading, New York, Holt, Rinehart and Winston, Inc. 1971.

Spiegel, Dixie Lee "Teaching Children to Use a Context--Plus--Phonic Strategy", Reading Horizons, Vol. 25, No.3, pp. 176-85, Spring, 1985.

Thorndike, Edward, L. "Reading as Reasoning: A Study of Mistakes in Paragraph Reading" The Journal of Educational Psychology, Vol. VIII, No. 6, pp. 323-32, June 1917.

Appendix

1986 California Achievement Test Scores
Normal Curve Equivalent (NCE)
(Economy in K, 1 & 2)

63	35	70
34	79	54
51	70	70
48	70	63
46	96	48
39	42	63
37	58	79
58	48	96
39	70	35
79	25	51
37	51	51
51	39	79
63	79	70
79	58	31
58	79	79
15	79	79
48	48	96
70	70	51
63	70	70
51	58	54
40	70	58
51	32	79
70	58	54
70	63	70
51	96	79
37	79	29

1987 California Achievement Test
Normal Curve Equivalent (NCE)
Economy in K & 1 - Macmillan in 2

63	51	63
70	63	79
48	63	44
70	96	96
79	79	40
70	79	70
37	70	32
51	70	54
37	34	70
51	51	37
31	48	79
42	48	63
39	63	54
79	31	27
58	46	58
58	48	79
58	15	51
54	63	79
48	79	63
39	35	70
63	42	44
63	70	4
54	70	

1988 California Achievement Test
Normal Curve Equivalent (NCE)
Economy in K - Macmillan in 1 & 2

35	48	70
19	42	58
46	70	79
63	44	70
51	63	48
44	79	79
79	58	51
32	48	4
46	15	54
42	79	58
42	63	51
70	63	79
44	54	39
27	44	70
79	96	63
22	46	63
39	63	70
63	58	70
32	79	51
79	54	63
63	40	79
63	31	22
58	79	48
54	63	63